For the Medical Profession only.

MERCUROCHROME

220 Soluble

A GENERAL ANTISEPTIC

especially for

the Treatment of Infections of

The Genito-Urinary Tract.

Prepared in the Laboratories of

MAY & BAKER Limited

BATTERSEA, LONDON, S.W.11

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DISODIUM SALT OF
DIBROM-HYDROXY-MERCURY-FLUORESCEIN

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MERCUROCHROME
220 SOLUBLE.

INTRODUCTION: Mercurochrome-220 was first described by E. C. White in 1920 and was the outcome of research carried out in the chemical department of The Johns Hopkins Hospital, U.S.A. They set out to prepare and examine a number of organic derivatives of mercury which would combine the strongly antiseptic properties of the inorganic mercury salts, viz. mercuric chloride, mercuric cyanide, etc., and at the same time be free from the disadvantages of the latter. It was found that certain mercurial derivatives of the phthaleins formed dyes which possessed the desired advantages, and of these, Mercurochrome-220 exhibited them in the greatest degree.

DESCRIPTION: Mercurochrome-220 soluble is the disodium salt of dibrom-hydroxy-mercury-fluorescein, and is obtained by the action of

mercuric acetate on dibrom-fluorescein. The product of reaction is a dye in which the mercury is present in the nonionised state. For this reason Mercurochrome-220 does not give the usual qualitative reactions for mercury, and consequently does not give a precipitate in the presence of urine, albumen, etc. It is therefore able to exert its germicidal action to the full in presence of urine, the body fluids, and tissues in general.

*Mercurochrome-220 soluble consists of greenish iridescent scales or granules which are readily soluble in water and in saline solution. It contains about 23% of mercury, but in comparison with its mercury content is a much more powerful antiseptic than mercuric chloride.

*Mercurochrome-220 is so-called to distinguish it from other mercury derivatives of closely related composition which are included under the general term Mercurochrome. "Soluble" is added to indicate that the product is a preparation of Mercurochrome-220 characterised by being soluble in water. For the sake of brevity, however, the compound will hereafter be referred to in this pamphlet as Mercurochrome-220.

PREPARATION OF SOLUTIONS : Solutions of Mercurochrome-220 in distilled water are liable to decomposition (Todd) whereas those prepared with normal saline are much more stable.

The antiseptic efficiency of Mercurochrome-220 is considerably influenced by the reaction of the solution. In order to obtain the best results, a few drops of dilute acetic acid should be added to the solution until a slight turbidity is obtained. The efficiency of the solution is somewhat diminished by massive infections for which reason it is advisable that purulent discharges, etc., should be removed as far as possible prior to the use of the antiseptic.

INCOMPATIBILITY : Solutions of Mercurochrome-220 give precipitates with aqueous solutions of the vegetable alkaloids and with many local anaesthetics such as Alypin, Benzocaine, Butyn, Cocaine hydrochloride, Tropacocaine, Propocaine, Stovaine, β-Eucaine, Quinine urea hydrochloride, etc. Benzyl alcohol or Saligenin, however, are not precipitated by the dye.

Mercurochrome-220 is gradually converted by iodides into an inorganic mercury salt. Bromides have a similar action. Chlorides are without effect.

STERILIZATION AND STABILITY : Solutions of Mercurochrome-220 should never be boiled as they are decomposed at temperatures above 85°C. *It is quite unnecessary to sterilize solutions of Mercurochrome-220 as they are self-sterilizing.*

USES AND APPLICATION.

THE GENITO - URINARY TRACT : Mercurochrome-220 is the ideal antiseptic for the various infections of the Genito-Urinary Tract. Its non-precipitability by urine or protein, its low toxicity, its non-irritating properties, ready solubility, high penetrating and germicidal power render it especially useful in pyelitis, cystitis, gonococcal urethritis, gonorrhoea, vulvovaginitis, etc.

For all urethral infections a 1% solution is used, except in acute fulminating gonorrhoea in which more dilute solutions (0.25%—0.5%) are recommended in the early stages.

Infections of the anterior and posterior urethras and of the bladder should be preceded by a preliminary irrigation with sterile water or saline. Solutions of potassium permanganate or other oxidising agents must not be used.

The urethra and bladder are filled with a 1% solution of Mercurochrome-220, the solution being retained as long as convenient. In rare cases there may be some irritation experienced, in which case a rather more dilute solution should be employed during subsequent treatment.

In urethritis the time necessary for rendering the urethral discharge free from organisms varies from four to eighty days or more, the average, however, being sixteen days.

In cystitis cures have been obtained in 75% of a large number of cases, the average duration of treatment being about eighteen days.

In pyelitis, the kidney pelvis should be filled, preferably by gravity, with a 1% solution of Mercurochrome-220, which should be retained for five minutes; this treatment may be repeated four or five times weekly. The occasional alternate use of silver nitrate solution (0.5%—2.0%) is sometimes of advantage if well borne. The number of pelvic lavages required varies from three to twelve in order to effect a cure.

INFECTIONS OF THE FEMALE GENITO-URINARY TRACT.

For vulvo-vaginitis whether due to the gonococcus or other pyogenic organism, Mercurochrome-220 should be applied in the form of a 2% ointment.

For cervicitis, a 2% solution of Mercurochrome-220 is applied locally on a stick swab. For endometritis, the cavity of the uterus may be swabbed out with 5% Mercurochrome-220 after curetting.

Metastatic Gonorrhoea. For gonorrhoeal arthritis, intravenous injection of Mercuro-

chrome-220, 2-5 mg. per kilo body weight, should be given.

Whitman has reported remarkably good results with this treatment in cases of chronic gonorrhoea and complications.

General Antisepsis. Mercurochrome-220 has been found to be a very satisfactory general antiseptic for sterilising infected wounds, for pre-operative sterilisation of the skin and in obstetric practice. For all such purposes a 1%—2% solution is used. Such a solution has all the advantages of tincture of iodine; in addition it is possessed of much greater penetrative power, is distinctly less irritating to the sensitive tissues, and does not interfere with granulation and the healing of wounds.

Ophthalmiatrics. Mercurochrome-220 is the antiseptic of choice in the treatment of ophthalmia neonatorum and in all infections of the lachrymal sac, conjunctiva and cornea (except trachoma or Morax Axenfeld conjunc-

tivitis). The strength of the solution employed varies according to conditions and requirements from 0.5%—5% or even 10% in gonorrhoeal ophthalmia.

With the more dilute solutions (up to 2%), irritation is practically negligible and even with the stronger solutions is only of a transient character. The preparation is one of the most valuable and non-irritating germicides available for use in this field of practice.

OTOLARYNGOLOGY. The use of Mercurochrome-220 in the otolaryngological department of The Johns Hopkins Hospital, U.S.A., has been most favourably reported upon. It is used in solutions varying from 1%—10% in strength, according to conditions.

In chronic antrum infections a 5% solution may be employed, in more acute cases a weaker solution is used (1%).

In post-operative treatment of the mastoid and ethmoid cavities, Mercurochrome-220 is stated to be preferable to Dakin's Solution.

A 5% solution of Mercurochrome-220 in 50% alcohol is the most efficient ear-drop that has yet been prepared for chronic Otitis Media.

Intravenous Injection of Mercurochrome-220 Soluble.

The wide applicability of Mercurochrome-220 as an antiseptic and its general low order of toxicity have led to its trial intravenously in various conditions.

In an investigation into its employment in the treatment of acute bacterial infections, Dudgeon (*vide* literature references) found that the severe reactions obtained on intravenous injection by the medical department of The United Fruit Co., U.S.A., were due to the employment of rather too large a dose. This investigator considers that the maximum dose should not exceed 10c.c. of a 0.5% solution in saline, and has made use of even smaller doses.

As has already been mentioned, intravenous injection of from 2 mg. to 5 mg. per kilo body weight has been found to be very effective in

the treatment of gonorrhoea. In leprosy, definite improvement is stated to have followed the injection of 2.5 mg. per kilo body weight once a week for about one year.

MALARIA. Avison and Koo report that Mercurochrome-220 injected by the intravenous route (3 mg. per kilo body weight) has produced immediate cure in a number of cases. Dundas and Telang, however, were unable to confirm these results, and the true value of Mercurochrome in Malaria cannot be estimated in the light of our present knowledge.

REMOVAL OF MERCUROCHROME STAINS.

(a) *From the hands, skin, etc.*

Removal of Mercurochrome-220 stains from the skin may be effected by the use of a 2% solution of permanganate. This should be well rubbed into the skin and then followed by a 2% solution of oxalic acid similarly applied. Care should be taken that the latter solution does not come into contact with the eyes or the sensitive mucosa.

As an alternative method the use of a hypochlorite solution prepared by diluting Liq. Sodae Chlorinatae B.P. with 4 vols. of water is recommended. The disagreeable odour may be removed by the addition of a little dilute acid to the solution, and any tendency to roughness of the skin may be minimised by the use of any good skin lotion.

(b) *From Linen, etc.*

In order to remove stains from linen, etc., the material should be immersed in a solution of sodium hypochlorite (LIQ. SODÆ CHLORINATÆ B.P. diluted with 4 vols. of water); after two or three minutes immersion an equal volume of 5% acetic acid is added. The stain rapidly disappears, and should be completely removed in about one minute. The fabric is finally rinsed in hot water.

FOR DETAILS OF PACKING VIDE PAGE 19.

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MERCUROCHROME—220 SOLUBLE

is issued as follows:

GRANULES.	Tubes	of	1	gramme
	Bottles	of	10	grammes
	,,	,,	25	,,
	,,	,,	50	,,
	,,	,,	100	,,
	,,	,,	250	,,
	,,	,,	500	,,
	Ampoules	,,	5·7	,, (Quantity required to make 1 pint of 1% solution).

TABLETS, ea. 4½ grains (1 tablet makes 1 oz. of 1% solution)

Tubes	of	12	tablets
Bottles	,,	25	,,
,,	,,	50	,,
,,	,,	100	,,

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